CLAIMS:

1. A system for controlling flow, the system comprising:

a signal converter for receiving a unipolar control signal and converting the unipolar control signal to a bipolar control signal; and

a magnetically actuated bistable valve in electrical communication with and responsive to the signal converter.

2. The system of claim 1, wherein the bistable valve is a lever valve;

3. The system of claim 2, wherein the lever valve comprises:

a flux bracket;

a coil wrapped around the flux bracket with a first end and second end of the coil electrically connected to the signal converting means;

a valve seat, the valve seat having an input tube extending through the valve seat;

an armature pivotally attached to a valve seat, the armature having a closing member for closing the input tube; and

a magnet at an end of the armature.

4. The system of claim 3, wherein the lever valve further comprises a second coil, the second coil wrapped around the flux bracket in an opposing winding pattern to the coil.

5. The system of claim 1, wherein the bistable valve is a plunger valve.

6. The system of claim 1, wherein the signal converter comprises:

a bidirectional optical isolator for receiving an input signal;

a Schmidt trigger inverting buffer responsive to and in electrical communication with the bidirectional optical isolator;

a processor in electrical communication with the Schmidt trigger inverting buffer.

7. The system of claim 6, wherein the bistable valve is a lever valve;

8. The system of claim 7, wherein the lever valve comprises:

a flux bracket;

a coil wrapped around the flux bracket with a first end and second end of the coil electrically connected to the signal converting means;

a valve seat, the valve seat having an input tube extending through the valve seat;

an armature pivotally attached to a valve seat, the armature having a closing member for closing the input tube; and

a magnet at an end of the armature.

9. A method of controlling a magnetically actuated bistable valve, the method comprising the steps of:

receiving a unipolar control signal and converting the unipolar control signal to a bipolar control signal;

as directed by the bipolar control signal, producing an electric current in a first direction and directing the electric current to the bistable valve to switch the bistable valve from a first state, the first state being one of an open state or closed state, to a second state that is opposite the first state; and

as directed by the bipolar control signal, producing a second electric current in a second direction, the second direction being opposite the first direction, and directing the electric current to the bistable valve to switch the bistable valve from the second state to the first state.

10. An apparatus for converting a unipolar control signal to a bipolar control signal, the apparatus comprising:

a bidirectional optical isolator for receiving an input signal;

a Schmidt trigger inverting buffer responsive to and in electrical communication with the bidirectional optical isolator;

a processor in electrical communication with the Schmidt trigger inverting buffer.